

BEFORE THE
Federal Communications Commission
Washington, D.C

In the matter of)	
)	WT Docket No. 01-309
Section 68.4(a) of the Commission's Rules)	RM-8658
Governing Hearing Aid Compatible Telephones)	

Comments of Self Help for Hard of Hearing People (SHHH), Telecommunications for
the Deaf Inc. (TDI), and the National Association of the Deaf (NAD)
In Response to Petitions for Reconsideration and/or Clarification of the Hearing Aid
Compatible Telephones Report and Order

1. Introduction

Self Help for Hard of Hearing People (SHHH)¹, Telecommunications for the Deaf Inc. (TDI)², and the National Association of the Deaf (NAD)³, (collectively the “Commenters”) provide comments in response to the petitions for reconsideration filed by various parties including Verizon Wireless, the Cellular Telecommunications and Internet Association, Research in Motion, Public Service Cellular and several TDMA and rural carriers (collectively the “Petitioners”).

The Petitioners are fighting regulations that would work, over a period of time, towards enabling 6 million hearing aid wearers to use digital wireless telephones. Digital wireless telephones are mainstream devices and persons who use hearing aids and cochlear implants must have full access to them.

Some of the Petitioners argue that the Commission is imposing a new and unnecessary regulation, when in fact the Commission only fulfilled its obligation to review an exemption from a statutory requirement imposed by Congress. Clearly the Commission's rule furthers an important public interest.

¹ SHHH is the nation's foremost consumer organization representing people with hearing loss. SHHH's national support network includes an office in the Washington D.C. area, 13 state organizations, and 250 local chapters. The SHHH mission is to open the world of communication to people with hearing loss through information, education, advocacy and support.

² Established in 1968, TDI is a national advocacy organization actively engaged in representing the interests of the twenty eight million Americans who are deaf, hard of hearing, late-deafened, and deaf-blind. TDI's mission is to promote equal access to telecommunications and media for the aforementioned constituency groups

³ Established in 1880, the NAD is the oldest and largest consumer-based national advocacy organization safeguarding the civil and accessibility rights of 28 million deaf and hard of hearing individuals in the United States of America. The mission of the National Association of the Deaf is to promote, protect, and preserve the rights and quality of life of deaf and hard of hearing individuals in the United States of America. Primary areas of focus include grassroots advocacy and empowerment, captioned media, deafness-related information and publications, legal rights and technical assistance, policy development and research, and youth leadership development. The NAD works closely with deafness related national organizations and is a member of several coalitions representing the interests of deaf, hard of

The Petitioners question the validity of the ANSI standard and its incorporation into the rule even though they were participants in the committee developing the standard that followed formal ANSI standard-setting procedures.

2. Congress Intended Telephone Handsets to be Hearing Aid Compatible

Though digital wireless telephones were exempt from the Hearing Aid Compatibility Act of 1989, Congress required the Commission to review that exemption and remove it if four factors were met. Those were:

- 1) revocation is in the public interest; 2) continuation of the exemption would adversely affect consumers with hearing loss; 3) compatibility with hearing aids is technically feasible; 4) compliance would not increase the cost so as to make the telephones unmarketable.

The Commission reviewed the exemption and found sufficient evidence in the record to support all four factors. The Petitioners' claim is that they are not subject to the law and that the Commission has to justify imposing new regulations. The Commission merely reviewed the exemption as required by law, and partially lifted it based on findings. The Petitioners have not presented any new evidence to show that the Commission's decision is unjustified. The Commission should let the rule stand.

3. ANSI C63.19 Standard

CTIA's petition raises a number of concerns about the FCC's decision to use the ANSI standard by which hearing aid compatibility must be achieved. The petitioner claims that additional testing of the ANSI C63.19 standard is needed before it may be used by the Commission as a regulatory standard. The request for further study of the standard is a stalling tactic that will severely limit access to digital wireless telephones by hearing aid users at a time when wireless handsets are proliferating at an alarming rate.

CTIA presents nothing new in its Petition regarding the C63.19 standard that the FCC has not already taken into consideration. Throughout the entire HAC/Wireless proceeding, that started with the proposal of the HAC rules in 2001, CTIA has submitted extensive filings attempting to play down the responsibility of the wireless industry to make their services and products accessible to hearing aid users. In fact for the past 8 years, since the original petition on this issue was submitted to the FCC, CTIA has thoroughly laid out its views to the FCC. Initially claiming that the ANSI standard was a key contribution of the industry and a reason to rely on voluntary efforts, CTIA then began to question that any HAC standard would be effective in its comments.⁴ CTIA failed to mount a research effort to refine or further validate the standard to its satisfaction between the time the standard was adopted in 2001 and the time the rule was issued in 2003.

Nonetheless, the Commission has taken CTIA's concerns about the standard into account. In allowing the industry to revise the standard, the FCC has recognized that fine-tuning may be necessary; the Commission staff have also commented on these revised drafts of the standard and communicated frequently with those in industry working on the issue.

⁴ Reply Comments of CTIA, at 6. Feb 11, 2002

CTIA argues that the ANSI standard is not an established technology standard and therefore should not be used to support the mandates. They argue that only when the standards groups - the ATIS Incubator Process and the ANSI C63.19 Committee – have finished their testing, analysis, and revisions should the FCC determine whether or not to adopt the standard as the “established technical standard for HAC”.

There is a precedent for the FCC using a standard that could very well be revised and updated. In the Telecommunications for the Disabled Act of 1982, the FCC adopted a standard but cautioned that adoption of the standard did not preclude “EIA from developing new standards or revising its recommended standards to reflect changes in technology.” Rather than freeze technology by specifying a particular design for hearing aid-compatibility, in this case inductive coupling, the FCC remained open to technological alternatives to inductive coupling so long as they made the telephones hearing aid compatible by internal means.

Further, the current standard was adopted through the normal ANSI process. The C63.19 committee included 16 participants from 11 organizations of the hearing aid industry, 20 participants from 9 organizations of the wireless industry, including CTIA, and 14 participants of 9 organizations of federal agencies, testing labs, and research, totaling 50 participants from 29 organizations. The work of standards-setting bodies is on-going and is subject to an established process for revision and update. ANSI reviews standards regularly to update and incorporate changing technology.

The fact that the ATIS Technical Incubator is taking place to further refine the standard is insufficient reason to question the Commission’s incorporating the standard into the regulations. Given the timeline for implementation of the rule, there is time to revise the standard and still meet the deadline in two years.

4. The Role of Hearing Aid Manufacturers in Finding a Solution

CTIA complains that the FCC overlooked hearing aid immunity as a solution using the experience in Australia and Europe as an example. CTIA insinuates that immunity standards imposed solely on hearing aids would be a viable alternative to the ANSI C3.19 standard. The level of requirement for hearing aid immunity as instituted in Australia and parts of Europe is only to the level of bystander interference, not the higher level of immunity for user interference. In fact, hearing aid wearers continue to have difficulty using many GSM products in particular, and for millions of them, GSM is the only technology available.

In 1996 *both* hearing aid and handset manufacturers, under the auspices of the Commission, committed to improve the immunity of their respective products by 30dB. HIA has documented that the hearing aid manufacturers have improved the immunity of hearing aids by more than 15dB. It is now time for the handset manufacturers to do their part.

Moreover, the existing hearing aid immunity benchmark used elsewhere (IEC 60118-113) does nothing to address the problem of non-RF magnetic interference from phones. A hearing aid may be entirely immunized against RF emissions but still receive excessive interference when it is in telecoil mode, and to a lesser extent, when it is in microphone mode. Such interference comes from some phones' stray magnetic fields in the audio band. The ANSI standard calls this interference "baseband magnetic noise." By design, the telecoil must receive these magnetic fields if they are present. Handset manufacturers therefore need to avoid generating baseband magnetic noise in the first place.

Another consideration that has nothing to do with hearing aid RF immunity is the amount of inductive signal produced by the phone for inductive coupling with hearing devices. Inductive coupling allows a telecoil-equipped hearing aid user to receive the speech signals electronically, thereby eliminating the otherwise disabling effects of feedback, distortion, and acoustic background noise. If the inductive signal is too weak, the telecoil user is unable to hear the desired acoustic sound adequately. Making hearing aid telecoils stronger is not the answer as overly strong telecoils pick up undesirable noise from nearby magnetic fields not related to the phone, such as those from fluorescent lights, transformers, and computer monitors. The ANSI standard calls the inductive signal the "desired audio band signal." It is thus imperative for phone manufacturers to design their phones with adequately strong inductive signals, bringing those phones on a par with HAC landline phones.

Satisfactory telecoil use depends on these factors:

- Zero or low RF emissions at the phone's speaker
- Low or no baseband magnetic noise, generated by the phone
- Low or no baseband ambient magnetic noise
- The presence of desired audio band inductive signal of a specified minimum strength, generated by the phone
- The frequency response of the desired audio band inductive signal, generated by the phone

CTIA routinely tries to shift the responsibility to hearing aid manufacturers and is looking for ways to minimize what phone handset manufacturers should have to do towards a solution. However, this argument has been thoroughly researched, is already clearly spelled out in the record, and has been reviewed by the FCC. It's time to move on.

CTIA claims: "There is no regulatory safe harbor for manufacturers or carriers if they choose other alternatives or develop proprietary solutions that provide a different yet viable approach than the ANSI C63.19 standard."

The Commenters' response is that the ANSI C63.19 standard is a measurement standard. It does not specify how a manufacturer achieves the performance, so there may be many solutions that meet the requirements. Directional antennas may be one solution to the emissions criteria. There may be more, such as innovative ways to move the components

that emit radiation farther away from the hearing aid, or shield the area where a hearing aid needs to be.

The ANSI C63.19 standard specifies measurements that are done with instruments, base station simulators, etc., therefore the human subjectivity factors are removed. To correlate and verify the validity of in situ measurements, a study was conducted by the University of Oklahoma using typical phones and hearing aid users and it was related to the emissions performance specifications. This study gives very strong evidence that usability will be achieved when wireless devices and hearing aids conform to the standard. More recently, in 2003 The RERC on Telecommunications Access at Gallaudet University had four handsets tested to the standard and then obtained ratings by 22 users with a variety of types of hearing aids. They found a strong correlation with U categories and user ratings for interference, based on ratings of these phones by 22 hard of hearing participants with a variety of hearing aid types.

A study of the reproducibility of the ANSI standard is under way in the ATIS incubator. A user testing protocol is about to be developed by ATIS for validation of the revised standard. Because of the rule, progress is now being made.

5. Benchmark Requirements

CTIA questions the benchmarks of 25% and 50% created by the new rules stating that the FCC failed to provide a rationale for this requirement and that they did not use “reasoned decision making.” CTIA further argues that it is in violation of the Administrative Procedure Act that requires agencies to provide explanations for their actions, including “rational connections” between the facts available and the choices made.

Setting benchmarks is typically what the Commission does in disability proceedings. There are many examples of line-drawing that the Commission has done including for wireline phones and captioning where benchmarks were established over an 8-10 year period. Similarly the Commission drew lines over the years in determining what were essential telephones for purposes of HAC. The Commission is faced with considering the public interest versus the burdens on industry that will result from fulfilling the needs of the disability population in question. We believe the Commission did due diligence in balancing the various interests in this proceeding. In considering the burdens that might be placed on industry, in particular a disproportionate impact on small phone manufacturers, the Commission adopted a de minimis exception so that if a manufacturer or carrier offers two or fewer digital wireless handset models in the U.S. it is exempt from the compatibility requirements of the Order. Similarly, the Commission allowed three years until the first implementation benchmark for the U3T rating. This was based on consideration of handset design cycles that can take one year or more whereby the Commission concluded that three years should be sufficient time for manufactures to make design changes, if necessary, and begin delivering phones that comply with the telecoil coupling requirements.

SHHH and other consumer organizations advocated all along for full removal of the exemption for wireless telephones from the HAC Act. The Commission came through

with a partial lifting of the exemption and a phased-in timeline to get to 25% and 50%. Did consumer groups consider submitting a Petition for Reconsideration for a 100% benchmark? Absolutely we did. However, we believe that the Commission used reasoned decision making to come up with the benchmarks in a difficult proceeding with many conflicting interests to take into consideration and that our energies would be better spent working with industry to implement the new Order and make the requirements work for everyone. The proceeding has already dragged on for 8 years since the HEAR-IT-NOW Petition was filed with the FCC in 1995.

6. Labeling Requirements

CTIA objects to and seeks reconsideration of the Commission's HAC Order requiring manufacturers to place a label on the exterior packaging of wireless phones indicating the U-rating of the digital wireless phone, and expresses concern that providing the U-rating on the exterior packaging is meaningless to a consumer who is not technically savvy and familiar with the U-rating system.

The Commenters cannot see why posting a label on the exterior packaging could be an undue burden. However, we could not agree more with CTIA that the information needs to be meaningful so that customers can quickly see if the phone is likely to work with a hearing aid and with what level of success. Requiring that one first purchase the phone, open the package, and read the documentation to ascertain this information is truly an undue burden on the consumer. There are "technically savvy" consumers who will want information about the U-rating appropriate to their hearing aid. For most consumers or family members the U-rating alone will not be enough without additional wording such as "Meets FCC's Wireless HAC Standard".

There must be a consumer and professional education campaign to increase awareness about phone ratings, what they mean and how they can be used to make purchasing decisions. We are confident that the terms U and UT, or perhaps a somewhat more user-friendly equivalent, will become understood and part of telecommunications access "lingo" among consumers and hearing health professionals. The FCC has committed to a consumer education campaign together with the FDA. Consumer groups are ready to play their part to ensure that consumers become savvy about wireless phones and how to recognize if they are accessible to hearing aid and cochlear implant wearers. Ideally we should include both the U- ratings and a more general statement along the lines suggested by CTIA on the packaging. Reading the statement and the rating together will increase understanding. A more detailed explanation of the U-rating can be posted to carrier, supplier, industry, professional, and consumer websites, and included in the telephone manual.

Given the way that digital mobile phones are marketed in telecommunications retail stores, information on the box and inside the box are likely to be secondary to the feature sheets displayed alongside handsets in the store. We suggest that information about the phone's rating be included in the list of features provided right there by the handset in the store so that the information is easily visible to customers as they are browsing for

phones. This information needs to be available not only to the individual with the hearing loss but also to family members who are shopping for relatives with hearing loss.

It is important to note that the ATIS Technical Incubator has put together a committee to study the issue of labeling both for exterior packaging and text for inserting into accompanying manuals. We can expect creative ideas to come out of that effort, including the possible use of visual symbols to quickly alert the consumer to information about using the phone with a hearing aid. Representation on that committee includes service providers, handset manufacturers, hearing health professionals, and consumers.

7. Live Testing Requirement

CTIA contends the Commission's live testing requirement is not necessary in view of the recent implementation of the CTIA Voluntary Consumer Information Code, and claims the Voluntary Consumer Information code, that allows for a minimum 14-day trial period, provides a more consumer-friendly approach than the FCC's live testing requirement. This program allows consumers to try out phones in a variety of weather, traffic, and location conditions before confirming a contract for a particular service. The Commenters applaud CTIA for introducing the program. However, consumers have told us repeatedly that they want to test the effectiveness of a product before buying it, and not go through the hassle of returning it. Even though testing in the store is limited, for everyone, irrespective of hearing ability, it does give consumers with hearing loss a way to evaluate quickly the volume and interference levels. For a more thorough test in different environments they can then use the 14-day trial period to see if they will keep the phone. The Commenters urge the FCC to keep the live testing requirement.

7. TDMA Carriers with the Rural Telecommunications Group

The TDMA and RTG Group requests that they not be held responsible to make TDMA handsets hearing aid compatible because the TDMA technology is being phased out. TDMA is a dying technology. The Commenters do not oppose this request as long as they are really not making new or updated handsets for TDMA and that the exemption applies only to existing handset models that are not updated. It should not be necessary to redesign existing models to make them HAC. However, any new TDMA models should have to comply with the HAC rule up to the point where the manufacturer or service provider meets the percentage requirements of the new rules for its overall TDMA offerings. Also, TDMA carriers and TRG group should be required to make handsets for other protocols that they deploy compatible.

8. Request to Tie the De Minimis Exemption to the Air Interface

The Commission HAC rule creates a de minimis exemption for manufacturers that offer two or fewer digital handsets in the United States. This exemption would be applied taking into account all handsets offered by manufacturers across all air interfaces. Research in Motion (RIM) proposes that the Commission clarify the de minimis exemption to apply on an air interface basis. The Commenters do not oppose this request. However, we ask for clarification that when a manufacturer has only one handset in any particular interface, that it would be subject to the HAC rule. If this is not the case then consumers with hearing aids and cochlear implants could be locked out from using a

particular model, with a particular air interface and their options greatly reduced. It is important to ensure that people with hearing loss have access to the kinds of innovations that Blackberry and others are developing – merging of PDAs, phones, computers, and cameras.

We appreciate the opportunity to submit these comments and urge the Commission to retain their HAC rule that gives consumers with hearing loss a chance to have access to digital wireless telephones.

Respectfully submitted,

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